

## DOCUMENTATION FOR GIF2HR/LBR

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### INTRODUCTION:

GIF2HR/LBR is designed as a way to convert GIF files to HR format and, if you want, display them on your Hi-res screen (R/S or Micro-Labs). You must have GBW4D ("Printing graphics" library in PICS forum) to be able to convert GIF pictures. I claim no responsibility as to the use or misuse of this software. I also decline responsibility for any loss of data or damage to equipment resulting from the use of any part of GIF2HR/LBR.

### PROBLEM FACED:

When attempting to decode GIF images for the TRS, one is faced with three difficulties: first, the data must be decompressed using the LZW algorithm; second, the colors must be converted to a series of gray shades (also known as "dithering"); third, our pixel size is not compatible with that of other computers (it is too narrow).

These problems were solved in the following ways:

- 1) and 2): GBW4D both decompresses data and performs the dithering... but it only writes to the printer...
- 3) correct pixel size is restored by doubling the width of each pixel in the image obtained from GBW4D

### HOW TO CONVERT GIF TO HR:

From TRSDOS (or LSDOS) ready, enter:

```
ROUTE *DK TO filespec/PRN:drive
ROUTE *PR TO *DK
GBW4D filespec/GIF
RESET *DK
RESET *PR
PRN2HR
```

### TECHNICAL INFORMATION:

The image is obtained from GBW4D by fooling it in believing a PRN file is the printer. This is done through logical device re-routing.

Once this is completed, the image is stored in filespec/PRN. We only have to take this PRN file and convert it to HR format and/or display it on the screen. As a bonus, you can print copies of the image (provided you have a suitable printer) easily by LIST filespec/PRN (P).

In the PRN file, the image is stored in vertical data bytes suitable for printer output. PRN2HR then takes image bytes from the PRN file, doubles pixel width, negates them (to compensate for the difference in background color between printer and screen), and rotates them, four at a time, to produce horizontal data bytes for hi-res output.

### LIMITATIONS:

The first limitation is the screen and pixel size on the TRS: the maximum image width that will fit the screen is 320. That cannot be changed without some heavy hardware hacking.

The second one is convenience, but I believe it is offset by the fact that this is -to my knowledge- the only way to convert GIF images for TRS screen use.

The third is speed - up to 7 minutes to run PRN2HR.. Cheer up! the original interpreted BASIC version of this program took more than one hour to do it!

The fourth is shade discrimination: you can't distinguish easily colors of similar brightness. Because of that, some pictures will be disappointing; however, I am currently studying ways to overcome that problem.

Questions or comments? Leave me a message through EMAIL.

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